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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,548	08/05/2003	Susan R. Norris	MONS:059US	1244

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EXAMINER	
BUI, PHUONG T	
ART UNIT	**PAPER NUMBER**
1638	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,548	NORRIS ET AL.	
	Examiner	Art Unit	
	Phuong T. Bui	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-36 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-4, drawn to a nucleic acid molecule, classified in class 536, subclass 23.6.

II. Claims 26-29, drawn to a phytol kinase polypeptide, classified in class 530, subclass 372.

III. Claims 5-24, drawn to a transformed plant and seed, and a method of making the plant, classified in class 800, subclass 281.

IV. Claim 25, drawn to oil, classified in class 435, subclass 134.

V. Claims 30 and 34, drawn to a method for increasing stress tolerance in a plant, classified in class 800, subclass 289. (note that method claim 34 appears to be in error in that it recites a dependency on polypeptide claim 26, rather the method claim 30).

VI. Claims 31-33, drawn to a plant cell, plant and seed with increased stress tolerance, classified in class 800, subclass 298.

VII. Claims 35 and 36, drawn to a method of increasing production of tocotrienols in a plant, classified in class 800, subclass 281.

For each of inventions I-VII above, restriction to one of the following is also required under 35 USC 121. Therefore, election is required of one of inventions I-VII and one of inventions (A)-(BG).

(A). SEQ ID No: 1, or a sequence encoding SEQ ID No: 2.

(B). SEQ ID No: 5, or a sequence encoding SEQ ID No: 6.

(C). SEQ ID No: 17.

(D). SEQ ID No: 20.

(E). SEQ ID No: 21.

(F). SEQ ID No: 22.

(G). SEQ ID No: 23.

(H). SEQ ID No: 24.

(I). SEQ ID No: 25.

(J). SEQ ID No: 26.

(K) SEQ ID No: 27.

(L). SEQ ID No: 28.

(MI). SEQ ID No: 29.

(N). SEQ ID No: 30.

(O). SEQ ID No: 31.

(P). SEQ ID No: 32.

(Q). SEQ ID No: 33.

(R). SEQ ID No: 34.

(S). SEQ ID No: 35.

(T). SEQ ID No: 36.

(U). SEQ ID No: 37.

(V). SEQ ID No: 38.

(W). SEQ ID No: 39.

(X). SEQ ID No: 40.

(Y). SEQ ID No: 41.

(Z). SEQ ID No: 42.

(AA). SEQ ID No: 43.

(AB). SEQ ID No: 44.

(AC). SEQ ID No: 45.

(AD). SEQ ID No: 46.

(AE). SEQ ID No: 47.

(AF). SEQ ID No: 48.

(AG). SEQ ID No: 49.

(AH). SEQ ID No: 50.

(AI). SEQ ID No: 51.

(AJ). SEQ ID No: 52.

(AK) SEQ ID No: 53.

(AL). SEQ ID No: 54.

(AM). SEQ ID No: 55.

(AN). SEQ ID No: 56.

(AO). SEQ ID No: 57.

(AP). SEQ ID No: 58.

(AQ). SEQ ID No: 59.

(AR). SEQ ID No: 60.

(AS). SEQ ID No: 61.

(AT). SEQ ID No: 62.

(AU). SEQ ID No: 63.

(AV). SEQ ID No: 64.

(AW). SEQ ID No: 65.

(AX). SEQ ID No: 66.

(AY). SEQ ID No: 67.

(AZ). SEQ ID No: 68.

(BA). SEQ ID No: 71.

(BB). SEQ ID No: 72.

(BC). SEQ ID No: 73.

(BD). SEQ ID No: 74.

(BE). SEQ ID No: 77.

(BF). SEQ ID No: 78.

(BG). SEQ ID No: 79.

This application contains claims directed to the following patentably distinct species of the claimed invention: A plant transformed with a second nucleic acid molecule:

i) *MT1*;

ii) tMT2;

iii) *GMT;*

iv) *tyrA*;

v) *HPT;*

vi) tocopherol cyclase ;

vii) chlorophyllase dxs ;

viii) dxr ;

ix) GGPPS ;

x) GGH ;

xi) HPPD ;

xii) AANT1;

xiii) ID1;

(xiv). SEQ ID No: 13.

(xv). SEQ ID No: 14.

(xvi). SEQ ID No: 15.

(xvii). SEQ ID No: 16.

(xviii). SEQ ID No: 18.

(xix). SEQ ID No: 19.

(xx). SEQ ID No: 69.

(xxi). SEQ ID No: 70.

(xxii). SEQ ID No: 75.

(xxiii). SEQ ID No: 76.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, 10-24 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

The inventions are distinct, each from the other because of the following reasons:

2. The polypeptide of group II and polynucleotide of group I are patentably distinct inventions for the following reasons. Polypeptides, which are composed of amino acids, and polynucleotides, which are composed of purine and pyrimidine units, are structurally distinct molecules; any relationship between a polynucleotide and polypeptide is dependent upon the information provided by the nucleic acid sequence

open reading frame as it corresponds to the primary amino acid sequence of the encoded polypeptide. In addition, while a polypeptide of group II can made by the polynucleotides that fall within the scope of group I, it can also be recovered from a natural source using by biochemical means. For instance, the polypeptide can be isolated using affinity chromatography. For these reasons, the inventions of groups I and II are patentably distinct.

Furthermore, searching the inventions of groups I and II together would impose a serious search burden. In the instant case, the search of the polypeptides and the polynucleotides are not coextensive. The inventions of Groups I and II have a separate status in the art as shown by their different classifications. There is search burden also in the non-patent literature. Prior to the concomitant isolation and expression of the sequence of interest there may be journal articles devoted solely to polypeptides that would not have described the polynucleotide. Similarly, there may have been "classical" genetics papers that had no knowledge of the polypeptide but spoke to the gene. Searching therefore is not coextensive. As such, it would be burdensome to search the inventions of groups I and II together.

3. The polynucleotide of group I and plant of group IV are patentably distinct inventions for the following reasons. Polynucleotides, which are composed of purine and pyrimidine units, are structurally distinct from a plant and seed, transformed with the polynucleotide; any relationship between a polynucleotide and plant is dependent upon the information provided by the nucleic acid sequence open reading frame as it corresponds to polypeptide expressed in the plant. The polynucleotide may be used in

a hybridization assay without causing expression of the polypeptide. In addition, expression of the polypeptide in the plant must be of a sufficient level to increase tocopherol and tocotrienol levels. For these reasons, the inventions of groups I and IV are patentably distinct.

Furthermore, searching the inventions of groups I and IV together would impose a serious search burden. In the instant case, the search of the polynucleotides and the plants are not coextensive. The inventions of Groups I and IV have a separate status in the art as shown by their different classifications. There is search burden also in the non-patent literature. Prior to the concomitant isolation and expression of the sequence of interest there may be journal articles devoted solely to plants with increased tocopherol and tocotrienol levels that would not have described the polynucleotide. Similarly, there may have been "classical" genetics papers that had no knowledge of the function but spoke to the gene. Searching therefore is not coextensive. As such, it would be burdensome to search the inventions of groups I and IV together.

4. Inventions VI and I-III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are directed to divergent molecules having different functions and effects. The oil may be used as a food ingredient quite apart from the use of a polynucleotide, polypeptide or plant.

5. Inventions I, and IV and VII are related as product and processes of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the polynucleotide can be used in a materially different process such as one in which the polynucleotide is used to transform a bacterial host cell for heterologous expression of the polypeptide.

6. Inventions (A)-(BG) are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). The instant specification does not disclose that these polypeptides, polynucleotides and antibodies would be used together. Each invention performs a divergent function using a structurally divergent material. Therefore, where structural identity is required, such as for hybridization or expression, the different sequences have different effects. For these reasons the Groups (A)-(BG) are patentably distinct.

Furthermore, the distinct products require separate and distinct searches. The inventions of Groups (A)-(BG) have a separate status in the art as shown by their different classifications. In cases such as this one where descriptive sequence information is provided, the sequences are searched in appropriate databases. As such, it would be burdensome to search the inventions of Groups (A)-(BG) together.

7. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Bui whose telephone number is 571-272-0793. The examiner can normally be reached on Mon to Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on 571-272-0745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong T. Bui
Primary Examiner
Art Unit 1638

7/18/05